FEDERAL - STATE COOPERATIVE

SNOW SURVEYS AND IRRIGATION WATER FORECASTS
for

Montana and Northern Wyoming
Upper Missouri, Upper Columbia and Yellowstone Rivers

By
Division of Irrigation, Soil Conservation Service
United States Department of Agriculture
and
Montana Agricultural Experiment Station

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In cooperation with the U. S. Forest Service, U. S. Geological Survey, National Park Service, U. S. Bureau of Reclamation, State Engineers of Montana and Wyoming and other Federal, State and local organizations.

OUTLOOK FOR
IRRIGATION WATER SUPPLY
January 1, 1951

Snow survey measurements made at a few key stations in the Missouri Basin on or about the first of January 1951 indicate that as of this date the snow pack in the mountains has accumulated to about an average condition based on January First measurements for the past 5 to 17 years. Snow water equivalent measurements on the Madison and Gallatin Basin are not as high as 1949 or 1950, but close to the average condition.

Only a few courses were measured on the Columbia River Basin. Measurements on or near the Continental Divide indicate that the snow pack in the Columbia Basin has also accumulated to about an average condition. There have not been sufficient surveys made to give much of an indication at this early date in the season. On February First more stations will be measured, and we will be able to form a better opinion of the snow pack at that time.

Stream-flow conditions, as reported by the U.S. Geological Survey, have been above normal during the fall and early winter. The water in storage reservoirs throughout the State is considerably above a year ago and carryover storage for irrigation and hydroelectric power is in excellent condition.

MONTANA SNOW SURVEYS JANUARY 1, 1951

MISSOURI BASIN

DRAINAGE BASIN AND SNOW COURSE **	No.	Elev.	Date of Survey 1951	Snow Depth (In.) 1951	Water Content Jan. 1 1951	Density %	Water Content (Inches) Past Records 1950	Past Records 1949	Average Data Jan. 1 Avg.	Average Data Jan. 1 %Avg.	Years of Record	Ground Surface Condition
JEFFERSON RIVER												
Kilgore (Idaho)	11E12	6200	Jan. 1	21	9.0	43	2.1	5.2	4.0	220	15	---
MADISON RIVER												
Hebgen Dam	11E5	6550	Jan. 4	23	3.9	17	4.8	8.5	5.2	75	17	---
West Yellowstone	11E7	6700	Jan. 4	27	5.6	21	4.1	7.8	4.6	122	14	---
Norris Basin	10E2	7500	Jan. 4	17	3.6	22	-	-	-	-	1	---
Island Park (Idaho)		3600	Dec.30	20	4.0	20	5.9	8.4	5.4	74	16	---
Valley View (Idaho)		6500	Dec.29	17	3.4	20	6.2	8.0	4.7	73	15	---
GALLATIN RIVER												
Mystic Lake	10D2	6600	Jan. 3	20	4.6	23	1.3	5.6	3.4	135	14	G.N.F.
New World	10D1	6700	Jan. 3	21	4.4	21	2.0	6.0	4.1	89	3	G.N.F.
21-Mile	11E6	7150	Jan. 4	32	7.3	23	7.4	12.7	7.1	103	13	---
MISSOURI RIVER MAIN STEM												
Chessman Res.	12C5	6200	Jan. 4	6.6	1.5	23	1.7	3.1	2.0	75	16	---
Ten Mile Lower	12C2	6250	Jan. 2	18	3.8	21	1.7	4.2	3.1	122	16	---
Ten Mile Middle	12C3	6800	Jan. 2	25	5.2	21	3.3	6.2	4.5	116	17	---
Ten Mile Upper	12C4	8000	Jan. 2	28	6.3	23	4.1	7.7	5.7	110	17	---
MARIAS RIVER												
Marias Pass	13A5	5250	Jan. 2	28	7.7	28	10.3	9.9	7.0	110	17	---
UPPER YELLOWSTONE												
Canyon	10E3	7750	Jan. 1	26	5.8	23	5.8	7.7	7.1	82	6	---
Cook City	10E7	7400	Jan. 2	18	3.4	19	2.3	6.2	4.1	83	5	---
Lake Camp	10E4	7850	Jan. 1	19	4.0	21	3.1	7.4	4.8	83	3	---
Lewis Lake Div.	10E9	7900	Jan. 2	70	21.2	30	21.6	25.3	20.7	102	32	---
Norris Junction	10E2	7500	Jan. 2	18	3.6	22	-	-	-	-	1	---

MONTANA SNOW SURVEYS JANUARY 1, 1951

COLUMBIA RIVER

DRAINAGE BASIN AND SNOW COURSE **	No.	Elev.	Date of Survey 1951	Snow Depth (In.) 1951	Water Content Jan. 1 1951	Density %	Water Content (Inches) Past Records 1950	1949	Average Data Jan. 1 Avg.	%Avg.	Years of Record	Ground Surface Condition
FLATHEAD RIVER												
Desert Mt.	13A2	5600	Jan. 3	40	6.9	17	6.2	-	-	-	2	--
Marias Pass	13A5	5250	Jan. 2	28	7.7	28	10.3	9.9	7.0	110	17	--
UPPER CLARK FORK												
Chessman Res.	12C5	6200	Jan. 4	6.6	1.5	23	1.7	3.1	2.0	75	16	--
Ten Mile Lower	12C2	6250	Jan. 2	18	3.8	21	1.7	4.2	3.1	122	16	--
Ten Mile Middle	12C3	6800	Jan. 2	25	5.2	21	3.3	6.2	4.5	116	17	--
Ten Mile Upper	12C4	8000	Jan. 2	28	6.3	23	4.1	7.7	5.7	110	17	--

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COOPERATIVE SNOW SURVEYS

Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"WATER IS THE WEST'S GREATEST RESOURCE"